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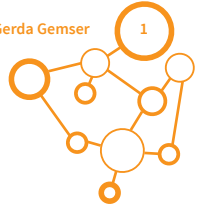
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2 Lessons Learned on Initiating Networked Innovation

Fleur Deken, Kristina Lauche, Hans Berends & Gerda Gemser



Lessons Learned on Initiating Networked Innovation

In today's competitive markets, tech companies must innovate to excel in the long term. A survey from the Boston Consulting Group (2009) showed that the majority of senior executives from large international corporations have innovation amongst their top three strategic priorities. To realize ambitious innovation goals, companies increasingly tap into knowledge and capabilities of other companies. They set up alliances and R&D consortia both within and across supply chains to keep up with fast-paced technology and market developments and realize new product and service innovations. Such collaborations are types of 'networked innovation,' which we define as the pooling of resources by three or more firms for innovation purposes. By pooling knowledge and capabilities companies can exploit their complementarities. Despite the potential benefits of networked innovation, organizations that initiate these projects face many challenges: Partners' goals are often ill aligned, technologies may prove incompatible,

and roles and responsibilities are unclear at the start. The challenges become even more stringent when companies further deviate from their existing supply chain roles (e.g., when OEMs ally horizontally with existing suppliers or when partnerships are set up across sectors).

This document reports on the lessons learned on initiating networked innovation based on the doctoral research of Fleur Deken. We focus specifically on the initiation process since scant research hitherto has studied this process. Our research was part of a larger program on networked innovation funded by NL Agency of the Ministry of Economic Affairs (Agentschap NL). Thirteen researchers from different Dutch universities investigated types of networked innovation in industry. The lessons discussed below are grounded in our ethnographic research but are also supported by research at other companies and published academic research.

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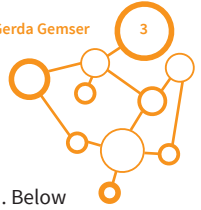
1. The Nature of Networked Innovation

Our fieldwork took place in the automotive industry and is a typical example of a product–service innovation. Increasingly, OEMs build new business models around hybrid offerings or combinations between existing physical products such as cars and new, to-be-developed information-based services. A Bain & Company study reports that only 21% of OEMs’ attempts to introduce—even the simplest—product–service combinations are successful. It seems that “[m]any product companies don’t realize the distance that separates a services expansion from their core product business, leading them to underestimate the difficulties and the degree of difficulty and investment required to build a strong services business” (Baveja, Gilbert, & Ledingham, 2004, p. 4).

A recent study in the *Journal of Marketing* reported that to realize successful product–service combinations, organizations must identify and exploit synergies between products and services (Uлага & Reinartz, 2011). However, traditional product development capabilities differ from service development capabilities. Because services have a number of process characteristics, existing product development capabilities are of limited use when developing product–services systems.

Services, for instance, are co-produced by customers, are perishable, intangible, produced and consumed simultaneously, and heterogeneous (Trott, 2011). This leaves OEMs with a challenge: they cannot simply apply their existing product development capability to the development of product–service systems, nor can they simply import and apply partner organizations’ service development capabilities. Marketing product–service combinations for instance requires developing new sales capabilities for both service- and the product-centric firms (Uлага & Reinartz, 2011). Therefore, what is required to succeed in developing successful product–service combinations, is a novel capability that connects products and services to leverage the potential complementarities.

In our research, we identified two work processes at OEMs and their potential partners that influence innovators in initiating networked innovation projects: New Product Development and Procurement processes. We focus on these two processes for the following reasons. First, these processes feature prominently in most innovations where multiple parties collaborate. Second, in our ethnographic research, we found that these work processes greatly influenced the progress



in the Connected Truck program. Although we here only discuss the New Product Development and Procurement processes, possibly also other work processes impact networked innovation in similar ways. We will demonstrate that these two work processes are often grounded in ‘old’ logics that no longer apply in the

context of networked innovation. Below we unpack the unique characteristics of networked innovation programs and discuss how these challenge existing ways of managing innovation. In the next section, we describe ways of dealing with these challenges.

2. Challenges

2.1. New Product Development processes

First, since networked innovation programs go beyond the knowledge bases of individual companies in the network, no single company can fully specify the program. Cooper’s Stage Gates process, the archetype upon which most companies’ new product development processes were built, does not allow for a specification process that spans organizational boundaries. Rather, internal projects are evaluated based upon the completeness of specifications and can often only proceed to the next Gate when the product specification is completed.

Second, exploiting complementarities between products and services is challenging since both incumbent product-centric firms and their network partners have yet to develop such capabilities. Therefore, multiple iterations are required to develop successful product–service systems. Often, novel business models are required to market product–service innovations. The academic literature on business model innovation advises companies to experiment with offerings and models. McGrath (2010) for instance maintains that companies should follow a ‘discovery-oriented approach’ rather than an analytical approach (e.g., analyzing the competitive environment using management tools such as Porter’s Five Forces or the SWOT analysis) to learn about which offerings and models work and which do not. Discovery-oriented approaches

are needed that enable experimentation in the marketplace to discern successful new models. New product development models, however, typically penalize experimentation. Rather, these models follow a one-off logic—companies should get everything right before launching the product. In subsequent steps in the innovation funnel, the product or service should become increasingly concrete and crystallized. Service-centric companies are practiced in continuous learning processes but their methods have not yet been coalesced in structured models like the Stage Gate model (see also Trott, 2011). Although products and services clearly differ, the few existing new service development models are criticized for resembling Stage Gate models.

2.2. Procurement processes

Adhering to the procurement logic is challenging when initiating a networked innovation project. Traditional procurement processes are directed at selecting suppliers rather than initiating new partnerships. For instance, procurement processes prescribe that only after an innovation program is fully specified, the official procurement process can start. In other words, companies should first decide upon their strategy before starting the procurement process. Slowinski’s (2003) popular “Want, Find, Get, Manage” model is built upon such a linear step-by-step approach. It prescribes that firms should first identify ‘what’ goals they want to achieve; then ‘find’ the required

external resources; ‘get’ a new collaboration partner; and finally ‘manage’ the collaboration to realize their goals. Yet, it is difficult for companies to precisely know ‘what’ they want before they actually ‘see’ the opportunities potential partners’ capabilities can bring. Especially when the envisioned innovation branches away from core capabilities and expertise, knowing ‘what’ to want is difficult—let alone to fully specify it in requirements.

Second, procurement processes often follow a best value logic. Different potential partners or suppliers are compared and ranked based on their scores on predetermined requisites. This logic is also typically associated with selecting suppliers rather than business partners. By sending out ‘Requests for Information’ and later ‘Requests for Proposals,’ companies collect information upon which they rank and select partners. Yet, when no single organization can fully specify the program themselves, who selects who becomes obfuscated and the traditional role division where the OEM takes the lead is difficult to maintain. Furthermore, the literature on alliances and joint ventures advises to select partners also based on softer criteria such as ‘cultural fit’ and ‘trust’. Procurement processes based on the best value logic may have trouble incorporating such qualitative concepts since they mostly rely on quantitative indicators.

Third, in networked innovation project, per definition, more than two organizations ally. Product-service systems are not simple additions of well-bounded

modules with predefined interfaces but, rather, are built around complex, ill-defined dependencies between partners’ capabilities. Traditional procurement processes are unsuitable for dealing with such dependencies between potential partners.

Which partner should be selected first? Which criteria allow for incorporating the interrelations between partners? Even though decision makers may find one partner (slightly) more suited compared to others, the ‘fit’ with other network partners can change this preference altogether. Traditional procurement processes cannot determine which combination of network partners will add most value; traditional procurement processes artificially slice and dice the dependencies between potential partners—thereby reducing complexity but not taking a comprehensive perspective on what matters most: ensuring a successful collaborations between network partners.

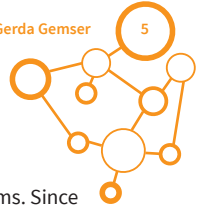
Finally, since potential partners all bring their unique capabilities to the network, the innovation program’s content is partly dependent on which partners eventually enter the network. This further complicates objectively comparing and ranking partners separately. Therefore, several iterations between specifying the program content and matching the network partners is required to identify a network that can deliver both (partners’) strategic objectives and comprises a compatible set of partners.

3. Dealing with the Challenges: Lessons Learned

#1 Defining the program strategy through early interactions

The intricate dependencies between partner capabilities make specifying the

program a joint activity rather than the responsibility of a single company in the future network. During early interactions, deep discussions are needed to



collaboratively scrutinize initial hunches on complementarities between products and services and business models. Based on our research, we came to call this process collective envisioning. Collective envisioning is the process through which potential network partners develop a shared vision of what the program will look like. Through recurrent interactions between potential partners, potential partners share their initial ideas, or, in other words, how they envision the future program. Over time, the emerging network can develop a congruent, shared set of goals, requirements, and early solutions for the program

During interactions, potential partners fill each other's knowledge gaps. This is a first important step in understanding the complementarities between divergent capabilities. Especially when the program deviates further from the company's own competencies, they may be surprised by input from potential partners. As a result of this surprising input, goals, requirements, and solutions may be transformed during interactions with potential partners early on in the initiation process. Furthermore, during such interactions the assumptions upon which the program is built and the program's potential can be validated. Potential partners have their own knowledge and experience and can use this to scrutinize the program content. Especially when various potential partners confirm the relevance of for instance the program proposition, this increases the confidence in the program. Therefore, through collective envisioning innovators can strategically strengthen and validate their proposition by drawing upon the collective knowledge of their potential partners. Innovators can use this confirmation to internally sell the program—this will be further discussed in lesson #4.

2 Influencing and untangling

Because of this collective envisioning, potential partners can (partially) influence the OEMs strategy development. Although this may happen in traditional buyer-supplier relations, it is more likely

in networked innovation programs. Since in these programs the (potential) network partners all go beyond their own knowledge bases, the potential for knowledge cross-fertilization and identifying radically new solutions increases. By for instance introducing new solutions into the discussion, potential partners can (try to) steer the program's direction into a favorable direction for themselves.

This opportunity, however, simultaneously imposes a challenge for potential partner organizations: they may be confronted with sudden and abrupt changes in a program's direction and scope. First, since all potential partners will try to influence the OEMs program strategy, it is likely that after a series of interactions with different partners, the program strategy has changed. Second, since such programs are associated with high levels of uncertainty, the changes in project direction and scope can be abrupt and radical. In our research, we found that potential partners were oftentimes surprised by the (seemingly) abrupt changes in scope and direction. Potential partners can only partially mitigate these uncertainties. By interacting regularly with the OEM (and other potential network partners), they can try to keep up with the latest developments in the strategy formulation of the program.

At the same time, the OEM may struggle to oversee how the capabilities and inputs of the various potential partner organizations amount to a complete program specification and how the potential partners match the envisioned network roles. For instance, in some network scenarios one company may fulfill two roles simultaneously whereas in other scenarios three separate companies fulfill that same role. Untangling the complexity introduced by interdependent capabilities and roles is a key challenge when initiating networked innovation. Potential partner organizations can support this process by exploring interrelations between themselves and other potential network partners. Yet it is unlikely that OEMs will leave a central role in the network to other partners.

3 Early interactions as initial performance and fit indicators of potential partners

Since OEMs may start interacting with potential partners when only having completed a rough program specification, their ideas on who they consider a suitable partner may fluctuate considerably over time. During the early interactions, potential partners not only co-develop the program content—also their preference for certain partners will start to develop. After engaging with various potential partners, initial preferences may change altogether. In early stages of a networked innovation program, knowing what type of partner innovators want is tough. As a result, the criteria for evaluating the potential partners co-evolve alongside the process of early interactions. Potential partners therefore cannot rely too much on early feedback on their performance.

As was stated above, cultural fit and trust between future network partners are determinants of successful collaborations. Early interactions are a means to experience to what extent the potential network partners experience a trustful (potential) relation and how they evaluate the cultural fit between themselves and the potential partners.

By interacting bilaterally with various potential partners, people may get an initial feel for the complementarities between themselves and their potential partners. Facilitating interactions between (potentially) dependent network partners, the process of determining complementary capabilities may speed up the process of exploring combinations of different partners. Further, such interactions may also provide an initial insight into the cultural fit and level of trust between dependent network partners.

#4 Legitimizing the program internally

For both OEMs and potential partner organizations it takes substantial effort to persuade their internal organizations to accept the ideas developed in early interactions. As in most innovation programs, and even more so in networked innovation programs, other organizational

stakeholders may consider the innovation ‘illegitimate’ (van Dijk, Berends, Jelinek, Romme, & Weggeman, 2011), i.e. they consider the program either ‘impossible’ or ‘undesirable’. These stakeholders may concern both people from other departments and a company’s senior management. The outcomes of the collective envisioning with potential partners will be confronted with the strategies at the various participating organizations. The innovators need to, somehow, convince other stakeholders of the potential of their ideas (Dutton, Ashford, O’Neill, & Lawrence, 2001; Lauche, 2011). Not the least, they have to convince their respective Top Management Teams (TMT) to support the program and allocate resources accordingly. The further away the envisioned program moves from the respective business-as-usual settings of the participating organizations, the more the program’s success depends on internal processes of legitimizing. Legitimizing is the act of weaving the content and actions associated with the networked innovation program into established concepts and processes (adapted from van Dijk, Berends, Jelinek, Romme, & Weggeman, 2011). Ensuring TMT support is particularly important. When this support lacks or disappears, program resources will become scarce. Academic literature, however, indicates that innovators in established organizations need some degree of autonomy in developing successful new innovations (Hill & Rothaermel, 2003). Furthermore, when programs receive too much attention of the TMT, the progress of innovation programs may lag behind (Deken & Lauche, forthcoming). Therefore, there seems to be a trade-off between ensuring TMT support and managing their involvement.

In our research we found that the future network organizations were often unaware of each other’s internal legitimizing activities. Since the internal legitimacy of the program determines both the programs’ progress and allocated resources, network partners should try to gain as much insight as possible in the unfolding of these internal processes. Otherwise, they may be surprised by unexpected



shifts in course or get stuck because of insufficient resources.

#4.1 Embedding

Above we described that some established work processes such as traditional procurement processes are unsuited for deciding about network partners. However, based on our research, we conclude that it may be difficult to ignore these processes altogether. OEMs, EMs, and other corporations that often ally with OEMs are all accustomed to the tendering logic that constitutes traditional procurement processes. These processes, for instance, define the respective roles and responsibilities of potential network partners. OEMs usually take a leading role and start specifying the project content. Although OEMs cannot fully maintain this role in networked innovation, they will probably still rely on their experience in initiating more traditional buyer-supplier relations—not least because OEMs' purchasing departments may insist following and that potential partners will also enact their role accordingly.

Even though it may seem best to dismiss existing work processes, we found that when the involved innovators tried to do so, the innovation programs' progress hampered. Innovators had to embed their actions in the very processes that essentially are unfit for networked innovation. Embedding concerns molding the networked innovation activities in the existing work processes of the individual organizations. For instance, OEMs may have to mold the networked innovation actions into the Stage Gate processes as this assist in convincing internal stakeholders and the TMT of the relevance and accuracy of their actions. However, following the official processes will only get innovators so far. The existing routines have to be adapted to deal with the unique characteristics of networked innovation.

Adapting existing work processes is not uncommon in organizations—each program will do things slightly different. However, when dealing with developing product-services systems, different business units and departments are involved.

We found in our research that especially work processes that span departments are difficult to adjust. When handing over work to different department, people at that department expect the work in a certain way—in a certain format or order. These formats are usually tailored to other intradepartmental routines. When the formats deviate too much, internal stakeholders from other departments have difficulty continuing the work handed over to them from the innovators. Alternatively, stakeholders may interpret the changes made to the work processes as simply 'poor program management'.

The success of embedding activities depends on how well innovators are able to maneuver within the bandwidth between (1) making small or limited changes to the existing work processes so that involved people from other departments can still effectively deal with the work that innovators hand over to them and (2) making the necessary changes to work processes to incorporate the novelty associated with networked innovation program.

Embedding, however, not only concerns molding activities into existing processes just once. The timing and frequency of embedding activities matters too. Because the program is initially ill defined, the content is likely to change after sequences of early interacting with potential partners. When innovators do not update internal stakeholders about these changes, the gap between what these stakeholders are expecting and the actual program content they will be confronted with at some point, may become too large to bridge. Frequent updating therefore is recommended. However, shifting the program's course too often will also negatively impact the programs' legitimacy. Therefore, the success of embedding activities depends on how well innovators maneuver between two conflicting principles. On the one hand, innovators should minimizing the gap between what stakeholders know and the most up-to-date version of the program's content, which requires frequently communicating changes to internal stakeholders. On the other hand, innovators should refrain

from communicating changes too frequently since this will make the program seem unfocused and poorly managed.

#4.2 *Translating*

Developing product-service systems often yield new concepts and terminology. When concepts are completely new to the organization they may seem illegitimate. We found that innovators can deal with these illegitimacies by translating.

In translating, innovators present novel concepts as resembling the familiar; they assimilate new concepts associated with the innovation program to known concepts. For instance by drawing analogies between new and existing concepts, innovators can help internal stakeholders to better understand the program—making the program content resemble ‘business-as-usual programs’ per definition supports its legitimacy.

However, rendering the novel similar to the known has obvious limitations: if the program would truly resemble the familiar, it would not be a radical innovation program. Therefore, the translation strategy can only work to a certain extent. It makes sense for innovators to develop a repertoire of analogies to draw upon in conversations with different internal stakeholders. The risk of this approach is however that by assimilating the novel to the known, the expectation regarding the innovation also changes. Research in innovation management identified that one of the key problems is that innovation programs require for instance new approaches rather than being judged against existing yardsticks. For instance, “[e]stablished metrics make new projects look unattractive and artificially inflate the attractiveness of the existing business” (McGrath, 2011).

4. Conclusion

To conclude, all (future) network partners must learn to deal with the uncertainty associated with networked innovation projects. All partners should be open towards learning from each other during early interactions to make the most of the collective envisioning process. The roles and responsibilities in interactions between OEMs and potential partners must be adapted accordingly. For OEMs, for instance, closely adhering to a ‘partner selection’ logic is unproductive. Potential partners should ensure they ‘sell’ their capabilities but also expect the focus of the program to shift over time. Potential partners should try to ‘think along’ and provide input to the collective envisioning process—not the least because this will influence how other partners evaluate their capabilities. All parties should be sufficiently flexible in letting go earlier ideas, requirements, and solutions since

the collective envisioning is essentially iterative. Only by engaging in multiple rounds of exploring how to combine individual capabilities can the network identify complementarity.

Selling the program internally is nontrivial—both to other internal stakeholders and the TMT. Although all innovation programs are associated with illegitimacies, networked innovation programs even more so since they span inter- and intraorganizational boundaries. Selling the networked innovation program requires innovators to be inventive. They need to make existing work processes, concepts, and terminology work in their advantage. However, no one solution fits all. Rather, innovators need to use their empathetic abilities to tailor their translations and embedding to different organizational stakeholders.



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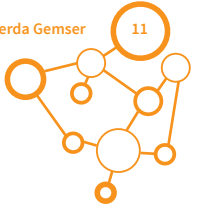


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